Claims

1. A detector constructed from electrically conducting fabric and configured to present a varying electrical characteristic in response to a mechanical interaction, wherein

a first conducting layer is displaced from a second conducting layer such that conduction between said layers results when said layers are mechanically forced together, characterised in that

the first of said layers has a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn,

said conducting yarns in the first of said layers are electrically grouped to define a plurality of identifiable rows;

each said identifiable row has a respective electrical conductor; and

said identifiable rows define specific regions of the detector.

2. A detector according to claim **1**, wherein said conducting yarn of said first layer extends in a first direction and said non conducting yarn extends in a second direction, said first direction being different to said second direction.

3. A detector according to claim **1** or claim **2**, wherein the second of said layers has a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of

said lengths of conductive yarn;

in the first of said layers, conducting yarn extends in a first direction and in the second of said layers, conducting yarn extends in a first direction;

the conducting first direction of the first conducting layer is different to the conducting first direction of the second conducting layer;

said conducting yarns in the second of said layers are electrically grouped to define a plurality of identifiable columns;

each said identifiable column has a respective electrical conductor; and

intersections of said columns and rows define specific regions of the detector.

4. A detector according to claim **1** or claim **2**, wherein in said second conducting layer, conducting yarn extends in a first direction and in a second direction different to said first direction.

5. A detector according to any of claims **1** to **3**, wherein said non-conducting yarn of said second layer extends in a different direction to the conducting direction of said second layer.

6. A detector according to any of claims **1** to **5**, wherein said detector is configured to present a set of varying electrical characteristics in response to a property of the mechanical interaction such that each varying electrical characteristic corresponds to one of said specific regions.

7. A detector according to any of claims 1 to 6, wherein said varying electrical characteristic varies with the pressure applied by the mechanical interaction.

8. A detector according to any of claims 1 to 7, wherein said varying electrical characteristic varies with the position of the mechanical interaction.

9. A detector according to claim 8, wherein said detector is configured to present a second set of varying electrical characteristics in response to a second property of the mechanical interaction.

10. A detector according to claim 9, wherein said second property is the pressure applied by the mechanical interaction.

11. A detector according to any of claims 1 to 10, wherein a partially electrically conducting layer of fabric is disposed between said first and second conducting layers.

12. A detector according to any of claims 1 to 11, wherein said first and second conducting layers are separated by two layers of electrically insulating fabric and said two layers of electrically insulating fabric are separated by a partially electrically conducting layer of fabric.

13. A detector according to any of claims **1** to **12**, wherein a potential is applied across at least one of said specific regions to determine the position of the mechanical interaction.

14. A detector according to any of claims **1** to **13**, wherein each said identifiable row has an electrical conductor at each of its opposing ends.

15. A detector according to any of claims **3** to **14**, wherein each said identifiable column has an electrical conductor at each of its opposing ends.

16. A detector according to claim **1**, wherein said first and second conducting layer constitute single fabric which is constructed to comprise an upper portion and a lower portion, said upper portion comprising insulating weft and conducting warp fibres, and said lower portion comprising conducting weft and an insulating warp fibres.

17. A detector according to claim **16**, wherein said upper and lower portions are periodically attached by the inclusion of one of the insulating yarns from either portion, in the other portion.

18. A detector according to claim **1**, wherein said first and second conducting layers are fabricated such that portions of the insulating fibres stand proud of the conducting fibres.

19. A detector according to claim **19**, wherein said insulating fibres have a larger dimension than the warp fibres.

20. A detector according to any preceding claim, wherein said fabric is constructed using a weaving process.

21. A detector according to any of claims **1** to **19**, wherein said fabric is constructed using a knitting process.

22. A detector according to any of claims **1** to **21**, wherein said detector is configured for use as a bed mattress cover.

23. A detector according to any of claims **1** to **21**, wherein detector is configured for use as a keyboard.

24. A detector substantially as herein described with reference to the accompanying drawings.